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QUALITY OF THE URBAN ENVIRONMENT AS PERCEIVED BY RESIDENTS OF SLOW AND FAST GROWTH CITIES[1]

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The 1981 Edmonton Area Study was administered and supported by the Population Research Laboratory and the Department of Sociology, The University of Alberta. This year's study was directed by Dr. L.W. Kennedy. In close cooperation with Dr. Kennedy, Raymond Currie of the Department of Sociology, University of Manitoba, and Charlene Thacker of the Department of Sociology, University of Winnipeg conducted a 1981 Winnipeg Area Study.

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ABSTRACT

Through the vehicle of the Winnipeg and Edmonton Area Surveys of 1981 this paper compares perceptions of the city by its residents in two cities of dramatically different growth rates, holding constant the region of the country, the size of the city, the time of the analysis and the methodology used.

The growth rate did influence the evaluations of the attributes of the city by its residents. However, this evaluation of growth was not a significant contributer to overall satisfaction with the city. While levels of satisfaction with the city were similar in the two cities, the contributing variables differed somewhat.

Quality of Urban Environment as Perceived by Residents of Slow and Fast Growth Cities[1]

Growth of an urban population is a highly complex reality. Increased population, new business both commercial and industrial, new homes and apartments are all catalysts that feed upon each other. These are associated with new modes of transportation as well as new transportation links. The consequences can be varied. Population growth, or lack thereof, is perceived to be a benchmark of economic health, so the investment climate is affected. On the other hand, the ability to provide services depends on the tax base. For fast growth cities, new tax revenues allow for new services. However, installation of new physical services can cause congestion, and adequate social services can lag behind the needs of the newly arrived migrants, as well as those of the settled residents. Slow growth cities face the opposite problem of trying to match the often highly expanded services of their neighbouring cities without the expanding tax base to do so. Yet they do not face the fast fix approach to urban problems that can inhibit long term, highly efficient and effective planning.

While conditions in fast and slow growth cities obviously differ, do residents perceive the quality of the urban environment differently? We will address this issue by comparing Winnipeg and

Edmonton, two cities in Western Canada with dramatically different growth rates.

We shall begin with a brief historical review in order to highlight the differences in the growth patterns of the two cities, and then present current socio-demographic characteristics. After reviewing the objective measures of growth and pointing out the more visible signs of change or non-change, we shall then look at the subjective evaluations provided by the residents of the cities in 1981 Surveys, addressing the following questions. 1) Do the residents of the two cities have significantly different evaluations of the growth rate of their cities? We would expect this to be the case, given the objective data which we shall present. 2) With the measures at our disposal, how much of the variance in satisfaction with the city can we explain in each of the two cities? 3) Do the same variables and/or cluster of variables account for satisfaction in each of the cities? 4) Finally, are the perceptions and assessments of growth in each of the cities significant factors in the levels of satisfaction achieved by residents in each of the cities?

Historical Development

Winnipeg and Edmonton were cities of fairly equal size in 1981, both with a relatively brief history of development (about

100 years). However,the growth of the cities has not been similar. Winnipeg had a dramatic expansion early in the century which has since slowed to a crawl. Edmonton's accelerated development began in the 1950's and reached its peak in the early 1980's.

Winnipeg's most dramatic expansion occurred between 1900 and 1914 when it grew by over 230 percent (Table 1). As the first city on the Prairies it consolidated its position early as the chief governmental, financial, commercial and cultural centre of the region (Nader,1976:273). With only 80 miles separating the United States border from the lower tip of Lake Winnipeg, all traffic in Canada east and west filtered through. This included the grain trade as well as wholesale goods. With the development of manufacturing in the city, the economic base expanded considerably, and the relative stability of the area over the years can be attributed to a large extent to this factor. The opening of the Panama canal in 1914, the dismantelling of preferential freight rates the city enjoyed, and the immigration to other centres on the Prairies, all led to a relative decline of Winnipeg and the rise of Vancouver and other Prairie cities. It is a fate that that has often been commented upon (Nader, 1976; Artibise,1977). One image of the city might be that of an aristocrat whose power and fortune was eroded with unreasonable speed by the nouveau riche of the region.

One the successful challengers to Winnipeg's dominant role in

TABLE 1. Population Growth, Winnipeg, 1871-1981, Edmonton 1901-1981.

YEAR	WINNIPEG CMA[1]	EDMONTON CMA[2]
1871	2,949	
1881	12,514	
1891	30,153	
1901	48,488	2,626
1911	156,969	24,900
1921	229,212	58,821
1931	294,905	79,197
1941	302,024	93,817
1946	320,484	113,116
1951	357,229	193,547
1956	412,741	274,895
1961	476,543	359,779
1966	508,759	425,370
1971	540,262	495,702
1976	578,217	556,270
1981	584,842	657,057

[1]Based on CMA, 1971 limits

[2]1951-1981 statistics are based on CMA 1971 boundaries.

Source: Nader, Vol. 2, p. 272 and p. 358, and Statistics Canada, Canada Update, Vol. #1, 1982.

the West was Edmonton. Its rise to prominence occurred above all following the discovery of oil in the Leduc area in 1947. This natural resource became the major catalyst for the city's growth, far overshadowing its other advantages as Provincial capital, gateway to the North and university centre.

Edmonton is now the largest prairie metropolitan centre, having surpassed Winnipeg in 1979. In the 30 year period from 1951 to 1981 the city grew from 193,547 to 657,057. This was a growth of 239 percent. In the same period, Winnipeg grew from 357,229 to 584,842, a 64 percent increase. In the decade that ended in 1981, the year of the survey reported in this paper, Winnipeg grew by only 8.2 percent (44,580), while Edmonton grew by 32.6 percent (161,355).The minimal growth that did occur in Winnipeg can be accounted for by the net gain of births over deaths. During the ten year period, the out-migration always exceeded the in-migration to Winnipeg. In 1979, the net out-migration was 15,457, the highest in twenty years. Edmonton, on the contrary experienced one of the highest net in-migration rates in Canada in this period. While well-educated households tended to be among the major out-migrants from Winnipeg, the in-migrants were often less educated young people, lacking marketable skills. Alberta, and particularly the cities of Calgary and Edmonton, were a major destination of the Manitoba migrants. Between 1976 and 1980 Manitoba lost 21,000 persons to Alberta and 13,000 to B.C. One third of those migrants were between 15 and 24 years of age. Among those over 25, one half

had some post-secondary education or higher (Statistics Canada, 1982).

Until the recent major recession in Canada, the economy of Manitoba was not strong enough to compete with that of its neighbours. As a relatively low wage, low income Province, any major growth of the national economy tended to mean that the economies of other Provinces improved still more than Manitoba's. Therefore, precisely in expanding economic times Manitoba experienced net out-migration. Poor economic times tended to slow down the out-migration. This economic climate has been the subject of a great deal of attention in the media, and the campaigns of political parties often revolve around it. The point deserves attention because of its potential impact on perceptions and assessments of cities by residents.

At the time of our research, Manitoba was in the last year of a Progressive Conservative government (October 1977-November 1981) which was sandwiched between terms of office by the NDP. Alberta was to continue its long standing Conservative government for the forseeable future. The age structure of the two cities was slightly different. While Edmonton had a higher preponderance of both young families with children and particularly a higher percentage of 19-24 year old males, Winnipeg had a higher proportion of seniors. Winnipeg had a higher proportion of females (sex ratio of .93) while Edmonton had more men (1.02). The cities had in common a

similar and very high index of ethnic diversity (.77 and .75) compared to other cities in Canada (Perspectives Canada 111, 1980:192). The percentage with a University education was very similar (19.8% in Winnipeg; 21.1% in Edmonton).

Among the types of employment of individuals in the two cities which were summarized in the 1981 census bulletins only two stand out as different. While Winnipeg reported a higher level of involvement in manufacturing (17.1% compared to 11.1%), Edmonton reported a much stronger construction industry (10.7% compared to 4.8%). While only 3.9 % of Edmontonians were directly involved in primary industries, clearly it was the gas and oil industry that gave Edmonton its economic boom. The average family income in Edmonton was $31,998. compared to $26,715. in Winnipeg (Statistics Canada, 1981c). Clearly, the economic situation of the two cities was quite different at the beginning of the 1980's.

Visible Signs of Growth or Non-growth

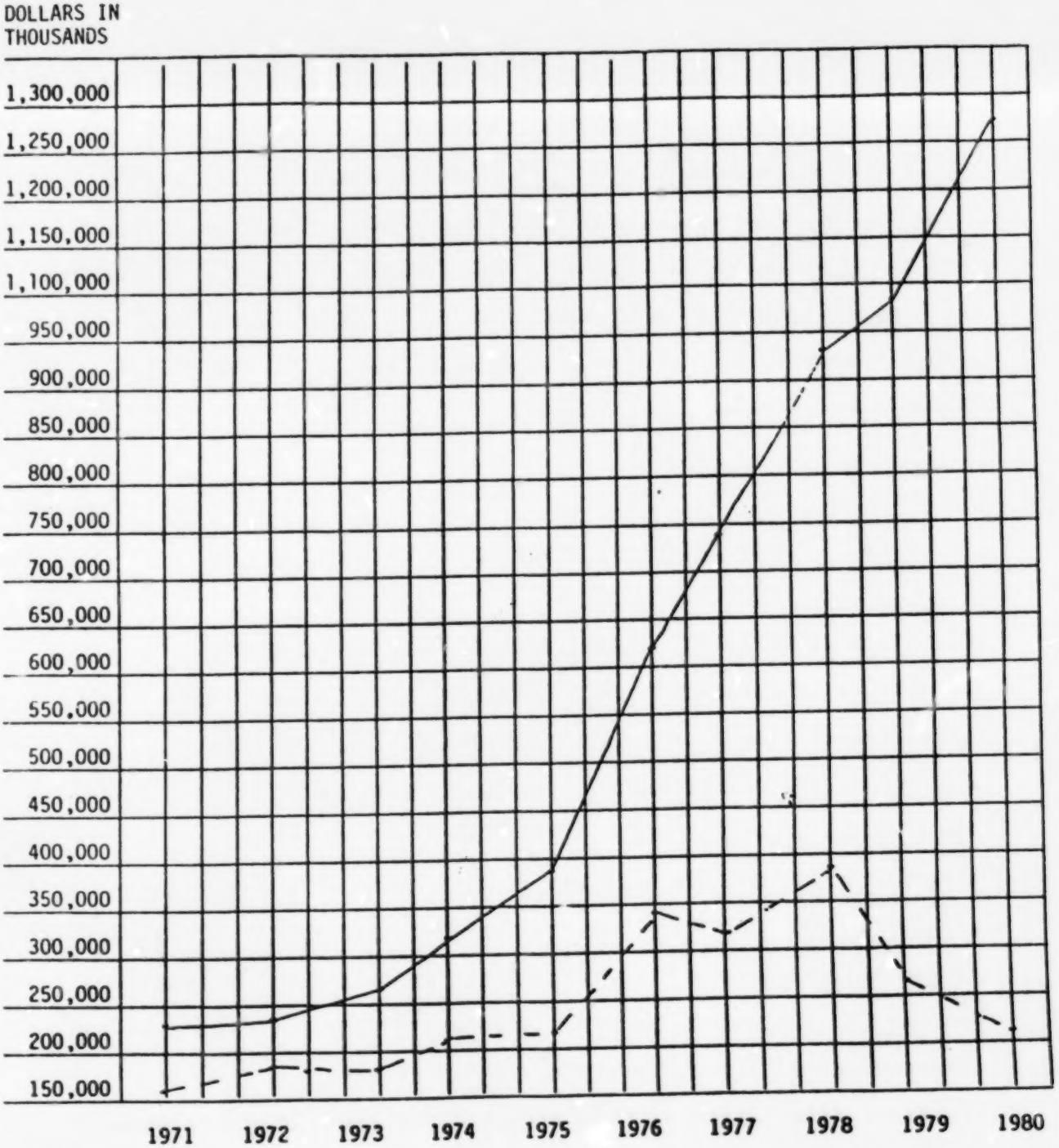
A dramatic urban growth rate is a highly visible phenomenon. So also, stagnation or decline does not escape public scrutiny. Possibly the most obvious indicator of city growth is the construction boom associated with it. In the late 1970's cranes

dominated the skyline of Edmonton, and cement trucks competed with commuters for space on the downtown streets. New suburbs also sprouted up. Chart 1 shows the value of building permits issued in Winnnipeg and Edmonton over a ten year period. While the value of permits in the two cities was not far apart in 1971, by 1980 the value differed by over one billion dollars a year. (Statistics Canada, 1981a; Canada Year Book, 1978-79:615)

Winnipeg reached its peak of building permits in 1978. Ironically, the decline that followed can be accounted for by the high out-migration of precisely those young household units that would be likely home buyers. They were leaving at a time when construction in Winnipeg was picking up. The consequence was a decline in residential building that was so sharp that even an increase in commercial construction could not prevent a net decline in the total value of building permits issued in 1979.

A second and related visible indicator of growth rate is the number of "For Sale" signs that dot the horizon, and the length of time they stay before being replaced by "Sold" signs. In 1980, Winnipeg was clearly a buyers market, with only 26.9 percent of the 20,121 listings being sold. Edmonton was a much more active market with 46 percent of the 17,460 units being sold (2). The larger number of listings in Winnipeg is deceiving. It should be pointed out that the slower the market, the more likely houses will not sell and therefore will be listed again after the termination of

CHART 1: Dollar Value of Building Permits Issued in Winnipeg and Edmonton 1971-80



Source: Statistics Canada, Annual Survey of Building Permits, Cat. 64-203.

the first agreement.

A third visible indicator of growth is the extent of change occurring in the transportation system. Between 1976 and 1980 daily communters in Winnipeg increased from 245,000 to 261,000, or 6.6 percent. In the same period, commuters in Edmonton increased from 243,000 to 298,000, a growth of 22.6 percent. Edmonton's response was the massive public transit project known as the LRT in addition to construction of major thoroughfares. While Winnipeg debated rapid transit plans on five occasions between 1957 and 1980, nothing in fact was built (Lowe, 1985).

Social Science Perspectives on Rapid Growth

Very early in the discipline of sociology, rapid population growth was an important topic. Durkheim (1933), and Simmel (1950) addressed the issue, highlighting respectively the social structural and psychological consequences of rapid growth. However, the Chicago School of sociology became a principal source of comment on the effects of rapid growth. This is not surprising, given the fact that in the second half of the 1800's Chicago grew by one million people. The turn of the century did not lead to a decline in this trend. Wirth's hypothesis (1938) on the negative consequences of size, density and heterogeneity was the classical formulation of the perceived problem. Wirth, however,

did contrast growth in isolated trading centres in the midst of agricultural regions to thriving world ports and commercial and industrial connurbations, where the consequences may be more dramatic.

The "modernization" literature suggests there are some distinct advantages to the openness that comes with rapid change, as well as to the economic prosperity that results (Inkeles and Smith, 1974). This literature tends to focus on developing nations, however, and therefore may not be as useful for understanding rapid change within an industrialized setting.

Freudenberg summarizes the literature on growth, and concludes, "it is possible to draw competing hypotheses either from the broader sociological literature or from work focusing specifically on rapidly growing communities" (1984:699). He argues that the issue is whether rapid growth disrupts the social structure sufficiently to lead residents to negative assessements of their community and their own quality of life, or whether the rapid growth offers such new and exciting opportunities that residents perceive the growth positively and see it as enhancing the quality of their lives.

Fischer suggests research in this area is long overdue. "Probably the greatest need for clarification lies in the realm of urban social psychology: conceiving the nature of the individual's

place in interaction with the urban structure" (1975:76). He further notes, "The bulk of urban research is composed of ethnographic studies of single communities. These works provide points of comparison but no actual comparisons of different communities" (1975:81). Through the vehicle of the Winnipeg and Edmonton Area Surveys of 1981 we have the unique opportunity to compare perceptions of the city (one aspect of individual interaction with the urban structure), in a slow and a fast growth city, holding constant the region of the country, the size of city, the time of analysis and the methodology used (3).

Methodology

In 1981 the Winnipeg Area Study and the Edmonton Area Study employed a common sampling design, questionnaire, and data collection and coding techniques. The interviews were conducted during the same time period, February through March. This was just prior to the beginning of an economic recession. Trained interviewers administered the survey instrument in one hour interviews within the household setting.

The primary sampling unit was the household. A simple random sample of all addresses listed in the 1980 assessement file for the City of Winnipeg and a simple random sample of all adresses compiled by the City of Edmonton from their 1980 enumeration were selected. Within the household one eligible person was selected from

among those for whom the dwelling was the usual place of residence and who were 18 or older. Interviewers were given detailed guildelines on how to obtain an equal number of male and female respondents within their given allotment of addresses. First contact with the households was between 4:30 and 8:30 p.m. on weekdays or on weekends. In Winnipeg, 457 addresses were selected and a response rate of 74% resulted in 336 completed interviews. In Edmonton, 543 addresses were selected, and a response rate of 75% resulted in a final sample of 400. Comparisons with census data showed the samples to be representative of the cities from which they were taken in important demographic aspects (Kinzel, 1981; Currie and Thacker, 1982).

Measures of Evaluation of the City and of Urban Growth

The questionnaire included a series of 18 characteristics of the city presented in a semantic differential scale with a seven point range. Examples include attractive-unattractive, good place to raise children-poor place to raise children, safe-unsafe,etc. (For the complete list of items, see Table 2). One of these items was "too little growth-too much growth", our key measure for the evaluation of growth. There was, as well, a second measure of the impact of growth. In a later section of the questionnaire, respondents were asked to rank what they felt were the three most important environmental issues facing their Province. Thirteen options were provided, including "Control of Growth (urban,

TABLE 2: Mean Scores on Perceptions of the City by Residents of Winnipeg and Edmonton[1]

		WINNIPEG	EDMONTON	
1.	*Attractive	5.27	5.04	Unattractive
2.	Unfriendly people	5.47	5.04	Friendly people*
3.	Crowded	4.68	3.74	Uncrowded*
4.	Good place to live	5.58	5.55	Poor place to live
5.	Pleasant	5.60	5.47	Unpleasant
6.	Big city	4.99	5.52	Rural
7.	Nothing to do	5.48	5.45	Lots of things to do
8.	Hard to get around in	5.60	4.96	Easy to get around in*
9.	*Good place to raise children	5.25	4.48	Bad place to raise children
10.	*Safe	4.89	4.26	Unsafe
11.	Poor climate	4.31	4.42	Good climate
12.	*Clear air	5.42	4.68	Dirty air
13.	Poor economic climate	3.72	5.31	Good economic climate*
14.	Too little growth	3.57	5.19	Too much growth
15.	Too close to relatives	4.22	4.41	Too far from relatives
16.	Bad for making friends	5.30	4.96	Good for making friends*
17.	Bad choice for housing	5.50	4.75	Good choice for housing*
18.	Poor chances to get ahead	4.60	5.68	Good chances to get ahead*
		N = 336	N = 400	

[1] Items were scored on a seven point scale. Items are ordered as they were on the questionnaire. However, for the analysis the scores have been reversed for items 1, 4, 5, 6, 9, 10 and 12 so that the more positive choice always is scored at the high end of the scale.

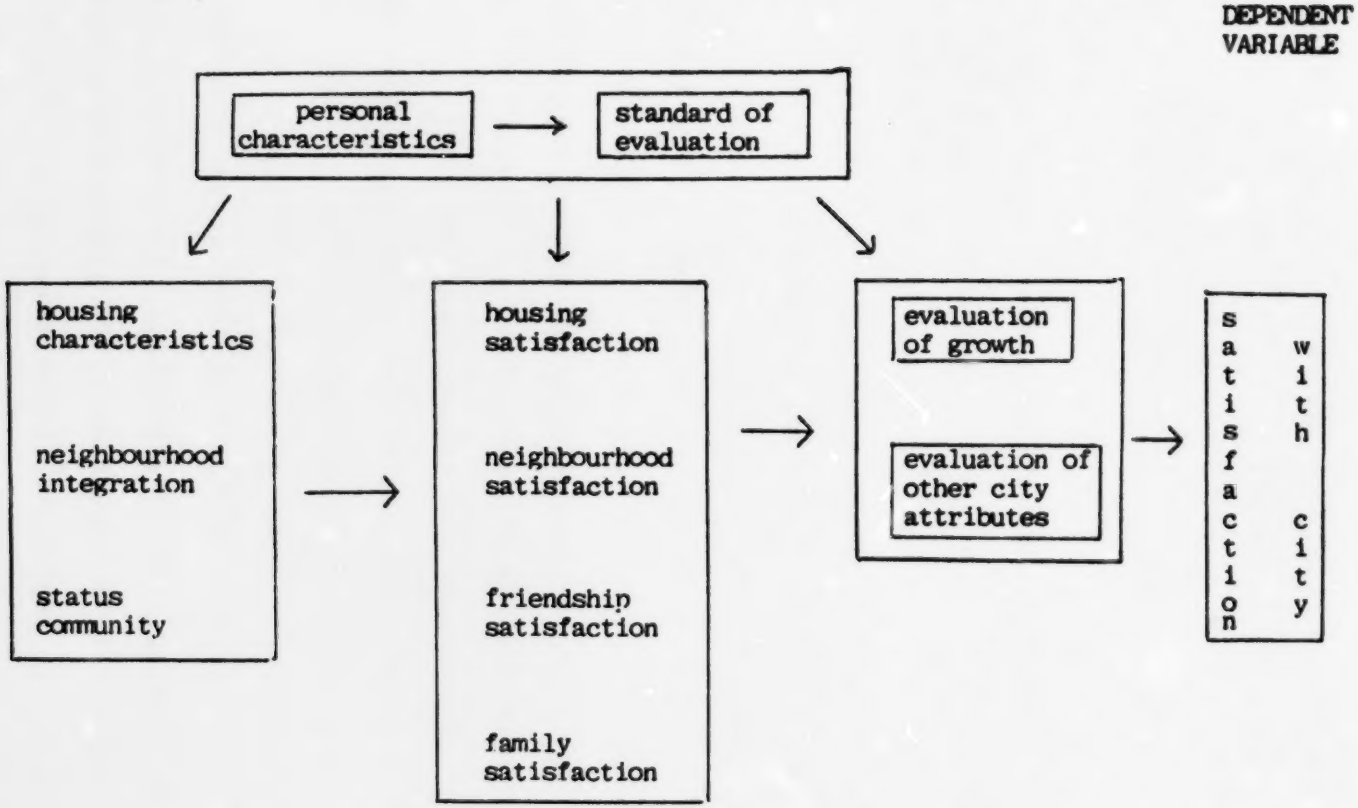
Significant differences $p<.05$ are indicated by *.

industrial)". All those who ranked "control of growth" as one of the three most important issues were grouped into one category, thus forming a dichotomous variable.

A Model of Community Satisfaction

To explain community satisfaction, a model was developed on the basis of previous work done by Marans and Rodgers (1975). This revised model is outlined in Chart 2. Satisfaction with the city was the dependent variable. In attempts to predict satisfaction, "which attributes are most relevant is an empirical question," Marans and Rogers suggest. Several types of environmental attributes were included in the model (See Appendix for the complete list of variables). First, those variables closest to the individual included housing characteristics, degree of integration within the neighbourhood, and general social relationships that can be subsumed under the heading of status community (Stub, 1974). These last items represent the possibility of social relationships without the spatial component being dominant; however, they are potentially important for overall satisfaction with the city. The next series of variables were single item indicators of overall satisfaction with housing, the neighbourhood, friendship and family life. The third series of variables were the attributes of the city. These were the 18 variables in the semantic differential scale mentioned above. In addition, a standard of evaluation, the standard against which an attribute is evaluated, was included.

Chart 2. Model of Community Satisfaction



For example, the place of birth, as well as the length of time the person has resided in a community may well affect his or her assessement of the community. Finally, person characteristics, such as age and education, can influence the perceptions and evaluations of the attributes and therefore need to be included. Beginning with the dependent variable, satisfaction with the city, we shall now discuss each of these general categories of variables as well as the specific measures used.

Satisfaction with the City and Evaluation of City Attributes

Once the item on growth was extracted from the semantic differential items, a factor analysis was then performed on 16 remaining items (4). In Edmonton, five factors emerged with the eigenvalue set at 1.0. The cumulative percentage of variance explained was 57.3. In Winnipeg, six factors emerged, and the variance explained was 63.7 percent. In both cities, all items loaded on one of the factors with a minimum loading of .40. In both cities, the same three items had the highest loadings on the first factor. Because of this, and because of the general nature of the three items (pleasantness of the city, good place to live and attractive) it was decided to take these out of the cluster and consider them an index to be called Satisfaction with the City. This index was used as the dependent variable in the analysis.

The strategy then adopted was to create the following scales composed of items that logically fit together. These variables were the measures used to assess attributes of the city.

Safe Social Environment

- Good place to raise children
- safe

Friendly environment

- Good for making friends
- Friendly people
- Lots of things to do

Good Physical Environment

- Clean air
- Good climate

Economic Climate

- Good economic climate
- Good chances to get ahead

Economic Boom factors

- Good choice of housing
- Ease of getting around

Locals/Cosmopolitans

- Uncrowded/crowded
- rural/big city

Measures of Satisfaction with Housing, Neighbourhood, Friendship and Family

Measures of satisfaction with housing, neighbourhood, friendship and family were single item questions, coded from (1) very dissatisfied to (7) very satisfied. They have been used in the annual Edmonton Area Study since 1977 (See Kennedy et al., 1977). These questions were taken from the 1974 Michigan Quality of life Survey and the National Opinion Research Council Surveys.

Seventeen variables, all indicators of housing characteristics, integration in the neighbourhood or status community were looked at as possible contributors to overall satisfaction with housing, neighbourhood, friendship and family respectively, and as predictors of satisfaction with the city (See Appendix). Two analyses were performed. First, a correlation matrix was run and variables that were uncorrelated with both the dependent variable (satisfaction with the city) and the other relevant measure of satisfaction were dropped. Other items deleted included those cases for which the correlation was so high that two variables were in fact measuring the same thing. The remaining variables were then entered into a step-wise regression analysis to test their ability to predict the related overall satisfaction measure: housing, neighbourhood, friendship or family. One of these variables modestly predicted satisfaction with housing (those in single dwelling units), another, satisfaction with neighbourhood

(adults known by name in neighbourhood), and a third, friendship satisfaction (frequency of getting together with friends). However, none of these variables were significantly correlated with satisfaction with the city when the significance level for remaining in the model was set at a liberal p. <.15 in at least one of the two cities. For that reason they were dropped from further analysis.

Standards of Evaluation and Personal Characteristics

Marans and Rogers (1975), as well as others (e.g. Campbell, Converse and Rodgers, 1976, Loetscher,1981) have pointed to the importance of locating the standard by which people evaluate the environment in which they live. These standards of evaluation may significantly affect the level of satisfaction experienced by residents. In addition, the personal characteristics of individuals may be significant contributors to satisfaction, although Marans and Rogers suggest they have an impact only indirectly on levels of community satisfaction. Ten variables were examined (see Appendix). The same procedures as outlined above were used to determine those that would be retained in the model. Eight variables were retained for further analysis (see Tables 4 and 5).

FINDINGS

Evaluations of Growth

Residents of the two cities had significantly different evaluations of the growth rates of their cities (Table 3). On the semantic differential item on growth, 42 percent of Winnipeggers judged the growth of the city to be about right, neither too little nor too much. An almost equal percentage considered the growth to be too little. On the other hand, two thirds of Edmontonians considered their city's growth to be too much and a quarter judged it about right. Only 7 percent considered it too little.

On the questions about the environment, only 12 percent of Winnipeggers chose the item "control of growth,(urban, industrial)" as a first, second or third most important environmental issue facing Manitoba. This placed growth as only the tenth most frequently mentioned issue out of thirteen. Issues of main concern to residents were "conservation of resources" (43%), "water quality" (38%) "control of chemicals or waste (30%). Almost twice as many Edmontonians (22%) checked growth as an important environmental issue. Its ranking was also much higher, 5th, once again after "control of chemicals or waste" (49%), "conservation of resources" (42%) and "water quality" (31%).

TABLE 3: Evaluation of Growth by Residents of Winnipeg and Edmonton

		WINNIPEG		EDMONTON	
		No.	%	No.	%
Too Little	1	33	10.2	7	1.7
	2	41	12.7	6	1.5
	3	55	17.0	14	3.5
	4	137	42.3	112	28.0
	5	31	9.6	83	20.7
	6	14	4.3	93	23.2
Too Much	7	13	4.0	85	21.2
		(324)	100.00	(400)	100.00
Mean		3.57		5.19	
S.D.		1.52		1.37	

Difference of means is significant, $p < 0.000$.

We shall have occasion shortly to measure the impact of these assessments of growth on the residents' evaluation of other city attributes, as well as on satisfaction with the city.

Evaluation of City Attributes

Several analyses were performed on these data. First of all, the mean scores on the 18 semantic differential items indicate that the residents of both Winnipeg and Edmonton were consistently positive in their perceptions of aspects of their city (Table 2). This in itself deserves attention. A great deal of media coverage, which highlights urban problems, seems to imply that residents do not think highly of their city. In addition, Charles Gordon (1984) argues that images of the city are not created by the residents themselves but by the visitors. These people tend to stay in the downtown hotels, never visit the suburbs, look for action rather than peace and quiet, and in general, seek different amenities than the residents. Yet it is their vision of the city that is popularized and becomes the basis for the reputation of the city.

There were some differences between the cities. On all but two items, Winnipeggers gave a higher evaluation of Winnipeg than Edmontonians did of Edmonton. These differences were statistically significant ($p. < .05$) on nine variables). One can observe in Table

2 that the differences in mean scores occur precisely on those items one would suggest should be influenced by differential growth rates. These evaluations follow rather consistently what the traditional theories of rapid growth have suggested. That is, the economic measures, economic climate and chances to get ahead, were evalauated significantly more positively in fast growing Edmonton. Winnipeggers, on the other hand, rated their city higher on social characteristics such as friendliness, good place to raise children, and being safe, as well as some physical aspects such as clean air and uncrowded city. Winnipeg was also judged more positively by its residents as easy to get around in (5) and having a good choice of housing.

We then wished to ascertain whether or not the differential evaluation of growth by the residents had an impact on these variables. The samples of both cities were each divided into three groups; those assessing the growth as too much (scores 5,6,7 on Table 3) about right (4) and too little (1,2,3). The mean scores on the attributes of the city were calculated once again, and T tests used to test the significance of difference ($p > .05$) between the evaluating groups within each city (6). Forty-eight T tests were run for each city (16 variables, 3 groups).

In Edmonton, only four differences were significant. As one might expect, those who thought the growth was too much were significantly more likely to find the city crowded compared to the

those who thought the growth was too little (p. <.02) or just right (p. <.0001). The same group also had significantly lower scores than the other two groups on clean air (just right, p.<.03; too little, p. <.002). Beyond this, there was little discernable pattern. Those who thought growth was about right rarely had the highest or lowest scores on any variables, but tended to score closer to those thinking growth was too much. On the other hand, those who thought the growth was too little were most positive about the city as a place to raise children and a as safe place, but also scored lowest of the three groups on "easy to get around in", "good for making friends" and "good housing choices".

In Winnipeg, differential assessements of growth were associated with differences on other variables more frequently and more consistently. First of all, those thinking the growth was about right gave the most positive evaluation on 10 of the 16 items. Secondly, sixteen group comparisions out of 48 were significantly different (7). This involved nine variables. Six of these variables had significant differences within Winnipeg in the same direction as that which occured between cities. For example, just as those in the slower growth city scored the city higher as safe and a good place to raise children, so also, within the slower growth city those who saw the growth as too little also had the highest evaluation of the city as safe and a good place in which to raise children (in all four cases, p <.01). On the other three variables, there were significant differences within

Winnipeg that did not occur between Winnipeg and Edmonton. That is, those who viewed the growth as about right also were more likely than the slow growth evaluators to see Winnipeg as a big city, with lots to do and with a good climate. Finally, it is interesting to note the differential evaluations on the economic indicators. Those perceiving too little growth once again score lower than the other two groups on economic climate and chances to get ahead, with three of the four differences being significant.

Levels of Community Satisfaction

The next task was to assess overall satisfaction with the city. Several questions were addressed. First, how much of the variance in satisfaction with the city could we explain in each of the two cities? Secondly, do the same variables and/or clusters of variables account for satisfaction with the city in Winnipeg and Edmonton? Finally, is the assessement of growth in each of the cities a significant factor in residents' satisfication with the city?

In order to answer these questions, two regression procedures were employed. First, four independent, preliminary stepwise regression procedures were carried out to determine the variables in each group (personal characteristics, standard of evaluation, housing and social relations, and city characteristics) that would

predict satisfaction with the city (8). In this step, once again a number of variables did not turn out to be statistically significant contributors to overall satisfaction with the city (p. >.15 in either of the two cities). This stepwise procedure determined both the variables that were to be included in the next step as well as their order within their group. The four groups of variables were then successively entered into one hierarchical regression so that the second and subsequent groups of variables were not entered into the regression until the preceeding group's explanatory power had been exhausted.

As Tables 4 and 5 indicate, the model explained almost equal amounts of the variance in each of the two cities, about 42 percent. This explanatory power is relatively strong.

In spite of an ambitious attempt to use a large number of variables to predict levels of satisfaction, our results indicate that in fact a relatively small number contributed to community satisfaction. When a much larger number of the variables were entered (26 in fact) into a regression equation without grouping, the total adjusted r squared for Winnipeg was 44.8 percent (F=24.3) and for Edmonton was 47 percent (F=28.0). This suggests that the model adopted made a parsimonious use of the variables available to explain community satisfaction.

The groups of variables did not explain equal amounts of

TABLE 4 Hierarchical Regression of Satisfaction with City on Independent Variables for Edmonton

	B	b	B	b	B	b	B	b
Personal Characteristics								
age of respondent	.07	.38*	.05	.22*	.04	.18*	.01	.07
presence of children	.89	.12*	.68	.09	.65	.09	.35	.05
household income	-.01	-.05	-.00	-.02	-.00	-.04	-.01	-.05
intercept	13.30							
adjusted R^2 = 8.4%**								
Standard of Evaluation								
size of place where grew up			-.09	-.06	-.09	-.06	-.14	-.10*
birthplace - Edmonton			1.02	.09	.89	.08	.72	.07
living preference (inner city)			.50	.06	.53	.07	.43	.05
living preference (suburbs)			1.36	.18*	1.30	.17*	1.02	.14*
not considered leaving city			2.00	.25*	1.71	.21*	1.01	.12*
intercept			12.06					
adjusted R^2 = 10.3%**								
Housing and Social Relations								
neighbourhood satisfaction					.40	.16*	.07	.03
friendship satisfaction					.32	.10*	.14	.04
family life satisfaction					.14	.05	.11	.04
intercept					7.80			
adjusted R^2 = 4.1%**								
City Characteristics								
safe family environment							.34	.26*
good physical environment							.30	.19*
friendly environment							.28	.26*
locals/cosmopolitan							-.14	-.10*
intercept							3.86	
adjusted R^2 = 22.2%**								
cumulative adjusted R^2 45.1%								
N = 400								

B = unstandardized coefficient
b = standardized coefficient
* = $p < .05$
** = $p < .01$

TABLE 5 Hierarchical Regression of Satisfaction with City on Independent Variables for Winnipeg

	B	b	B	b	B	b	B	b
Personal Characteristics								
age of respondent	.03	.14*	.02	.10	.10	.05	.00	.01
presence of children	-.31	-.04	-.14	-.02	-.25	-.04	-.03	-.00
household income	.01	.08	.02	.11*	.01	.07	.01	.06
intercept	15.06							
adjusted R^2 = 2.3%**								
Standard of Evaluation								
size of place where grew up			.20	.15*	.21	.15*	.03	.02
birthplace - Winnipeg			-.58	-.07	-.50	-.06	-.21	-.03
living preference (inner city)			1.24	.14*	1.05	.12	1.03	.11*
living preference (suburbs)			.50	.07	.20	.03	-.16	-.02
not considered leaving city			1.31	.18*	1.02	.14*	.77	.10*
intercept			12.95					
adjusted R^2 = 5.1%**								
Housing and Social Relations								
neighbourhood satisfaction					.67	.28*	.32	.14*
friendship satisfaction					.51	.19*	.34	.13*
family life satisfaction					.14	.05	.18	.07
intercept					6.39			
adjusted R^2 = 13.3%**								
City Characteristics								
safe family environment							.37	.30*
good physical environment							.19	.18*
friendly environment							.29	.20*
locals/cosmopolitan							-.10	-.07
intercept							1.56	
adjusted R^2 = 21.4%**								
cumulative adjusted R^2 = 42.1%								
N = 336								

B = unstandardized coefficient
b = standardized coefficient
* = $p < .05$
** = $p < .01$

variance in the two cities, nor did the variables within the groups behave in the same manner in the two cities. Specifically, personal characteristics and standard of evaluation contributed 19 percent of the variance in Edmonton but only 9.4 percent in Winnipeg. On the other hand, neighbourhood and friendship satisfaction were much stronger in Winnipeg, 14.6 percent compared to 4 percent. Attributes of the city explained virtually the same amount of variance in the two cities, about one half.

The variables that had different explanatory power in the two cities can be best identified by comparing the unstandardized b scores in Tables 4 and 5. There we see that Edmonton was more satisfactory to those who were born in Edmonton (1.05, compared to -.65 in Winnipeg), preferred the suburbs (1.30 compared to .33 in Winnipeg) and had children at home (.93 compared to -.36). While family life satisfaction was the same in the two cities, neighbourhood and friendship satisfaction was stronger in Winnipeg (.63 and .53 in Winnipeg compared to .33 for both measures in Edmonton).

In addition to noting the variables that contributed to satisfaction with the city, it is useful to point out those that were not predictive. First, neither measure of growth (it's evaluation as too little or too much, nor the identification of growth as an important environmental issue) appeared in the equation. This was one of the key questions we set out to address in the paper.

The other most notable absentee was the economic index (good economic climate and good chances to get ahead). We saw that as individual items, their mean scores were significantly stronger in Edmonton. Those in Winnipeg who tended to view growth as too little had the lowest scores on the economic items, but in neither Edmonton nor Winnipeg did economic growth predict overall satisfaction with the city, at least as measured in this study.

What is perhaps equally interesting is the relative lack of significance of these economic variables in another aspect of the study. In order to assess the usefulness of the subjective perception of satisfaction with the city we decided to treat satisfaction with the city as an independent variable. Our goal was to see if it could predict the likelihood of residents deciding to stay in the city rather than move. Four personal characteristic variables and nine subjective perception variables, including the economic index as well as satisfaction with the city, were entered into two independent stepwise regression equations (9) to predict decision to stay in the city. Those variables that were significant ($p. < .15$) in at least one city) were retained, and a hierarchical regression was then performed, with the personal characteristics entered first. In Edmonton, the total variance explained was 15.8 percent. The perception variables, including satisfaction with the city, in fact explained more of the variance than the personal characteristic variables ((9.2% compared to 6.6%). The economic

index was not significant. In Winnipeg, the total variance explained was 12.6 percent. Personal characteristics had slightly higher predictive value than subjective evaluations (6.6% compared to 5.8%). The economic index again was not significant. While the importance of satisfaction with the city and the other subjective evaluations varied between the cities, and the amount of variance explained by these variables was not particularly high, they did add enough explanatory power to argue that they should not be ignored in future research. Finally, it is noteworthy that for the total sample, the subjective economic indicators were not the strong predictors one might expect them to be.

Conclusions

The actual growth rate of the population did appear to influence the evaluations of attributes of the city by its residents. Between city comparisons suggest that those residing in the slower growth city tended to evaluate their city attributes more positively, except on the economic variables. Within city comparisons suggest that differential evaluation of growth tended to have a greater impact in the slower growth city. There, once again, those viewing the city growth as about right or too little were more positive in their assessment of city attributes, except on the economic variables, where the slow growth evaluators gave the lowest scores to these items.

We were able to predict an equal amount of the overall satisfaction with the city in both localities. While city attributes were the most powerful predictors in both cities, evaluation of growth of the city did not appear to have a positive or negative impact on overall satisfaction with the city. Characteristics associated with family life were the next most powerful predictors in Edmonton, while social networks were better predictors in Winnipeg. These findings are consistent with what one might expect; that is, in rapid growth situations, the more narrow social networks of the family would take on more significance than those in the broader community, even if growth itself was not perceived to be an important variable by the residents.

The findings indicate clearly that residents did not tend to perceive growth in strongly negative terms as some of the classical literature would suggest. One could argue that the cities studied are not large enough to provoke the negative reactions suggested by earlier authors. On the other hand, it may be that the Edmonton city government simply moved quickly to alleviate the most obvious inconveniences that could arise from rapid growth so that it was not perceived to be terribly disruptive. Or, finally, one might argue that Edmonton was so large with a population of 450,000 that even an increase of 160,000 people in a 10 year period did not provoke significant discomfort. Earlier studies did not measure the

subjective impact of growth; they only implied negative subjective impact. These implications may, in fact, have been unwarranted, at least for the majority of the urban population.

It may simply be that rapid change must have direct consequences on the individual for it to have a significant impact on subjective evaluations of the environment. Kennedy's research on Edmonton concludes that economic conditions of boom and bust do have some effect on subjective well-being "but this is clearly buffered though the adjustments made on an individual level to one's own personal circumstances" (1985). Freudenburg's research on boom towns in Colorado (1984) is further support for this view. The arrival of 1900 construction workers in a town of 5000 leaves very few untouched. Yet even there, Freudenburg comments that the adults seemed "able to continue the more intimate portions of their lives relatively unchanged." The young, on the other hand, had new classmates in school every day. "Students were undergoing a significant transition in their personal lives at the same time that the social world around them was going through a substantial change of its own" (1984:702). Greeley (1981:16) summarizes this point best when he suggests that our surveys of happiness and well-being really measure what is "intimate, personal, private." Only when the "impersonal becomes so threatening as to destroy intimacy" will we see a major impact on public perceptions and evaluations.

NOTES

1. The 1981 Winnipeg Area Study acknowledges with thanks funding received from the Population Research Laboratory, University of Alberta, the Social Sciences and Humanities Research Council, The Institute for Social and Economic Research, University of Manitoba, and the Research Boards of the Universities of Manitoba and Winnipeg. The authors are grateful to Leslie W. Kennedy for his encouragement and assistance in undertaking this first of the Winnipeg Area Studies. We also thank Andrew Wister for his advice, and Mary Anne Kandrack, our research assistant on this project.

2. The Multiple Listings Service (MLS) statistics for Winnipeg, unlike Edmonton, include all properties for sale. However, over 90 percent of those properties are houses.

3. It must be kept in mind that we are comparing two cities at one point in time. We are therefore unable to assess whether the residents of the cities had similar or different levels of satisfaction during previous time periods.

4. The item "too close to relatives, too far from relatives" was omitted because scoring presented serious problems.

5. Data on "Time to Work" published by Statistics Canada reveals that Edmontonians' average time to get to work was the same as that of Winnipeggers over the years 1976-80 in spite of the tremendous increase in road construction in Edmonton and in the number of new daily commuters. The construction of the LRT would appear to be a logical explanation. However, there are two rather contradictory pieces of evidence. On the one hand, perceived availability of public transportation by residents between 1977-80 went down in Winnipeg from 83 to 77 percent and from 71 to 66 percent in Edmonton. On the other hand, use of public transportation by those who perceived it to be available went up in Winnipeg from 30 to 32 percent and in Edmonton from 24 to 27 percent. While actual time to work may not have varied, perceived inconveniences caused by construction may have led to the less positive subjective perceptions of Edmontonians.

6. The $p < .05$ is a relatively liberal test in this instance, because of the fact that the measures are all within the same sample. The actual significance levels have been reported so that those preferring a more conservative test may note the actual findings.

7. In 3 cases, $p. < .03$; in 1 case, $p. < .02$; in 12 cases $p. < .01$.

8. It should be recalled that the variables measuring housing characteristics, neighbourhood integration and status community had already been eliminated.

9. Variables included were the following; age, sex, presence of children, household income, growth of city, distance from relatives, satisfaction with the city, and all six indices of city attributes described on p.14.

APPENDIX

VARIABLES INCLUDED IN INITIAL ANALYSIS

When appropriate the variables were recoded to be entered as dummy variables

Housing Characteristics
- Number of rooms
- Type of dwelling
  (single house, elevator apt)

Integration into Neighbourhood
- Number of adults known by name in neighbourhood
- Frequency of getting together with neighbours
- Length of time in residence
- Seriously considered moving within city
- Assessment of increase of crime in neighbourhood
- How safe feel walking in neighbourhood at night
- Owned or rented

Status Community
- How often get together with friends
- Family relationships improved since move to city
- Friendships improved since move to city
- Number of organizations belonged to
- Illness of someone close in last year
- Death of someone close in last year
- Work related difficulties in past year

Growth a major environmental issue

Personal Characteristics
- Sex
- Age
- Family income
- Education
- Job status

Standard of Evaluation
- Size of place in which respondent grew up
- Birthplace
  (outside Canada, Canada, Manitoba, Winnipeg)
- Places lived
  (Only Winnipeg, other CMA's. small cities or towns, rural farm or non-farm)
- Living preference
  (inner city, suburb within city, outside city)
- Considered leaving city

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